## REMARKS AND RESPONSE TO OFFICE ACTION

After entry of this paper claims 15-20 and 22-24 are pending. No claim amendments are being made and a listing of claims is thus not included with this paper.

### Status of the Application

Although claims 15-18 were previously allowed, the Office made the present rejection final. Applicant respectfully requests that the finality of the rejection be withdrawn and entry of the information disclosure statement that accompanies this paper. M.P.E.P. § 706.07 provides that prosecution should not be prematurely cut off for applicants who seek to move prosecution forward. M.P.E.P. § 706.07 also provides that any prior rejection should be reconsidered and reiterated in a final action. In this case, the Office asserted a new rejection that is based largely on two newly cited references. The Office made no prior rejection based on either reference and Applicant has thus had no opportunity to respond to any issue that is connected to either of these two references.

Although the Office stated that Applicant's prior claim amendments necessitated the finality of this Office action, it is not clear how this could occur. The claim amendments in the prior paper of June 30, 2003 corrected a typographical error in claim 15 and canceled claim 21. It is not clear how these amendments raise any significant or new issue for the Office to consider. Those amendments were a bona fide attempt to move the prosecution forward. Because the present rejection is based on two newly cited references and completely new arguments, Applicant respectfully requests the cooperation of the Office to allow Applicant a fair opportunity to respond to the Office's concerns.

### 35 U.S.C. § 112, first paragraph

The Office objected to the specification and rejected claims 15-20 and 22-24 as enabled for the specific tumor types disclosed in the application, but

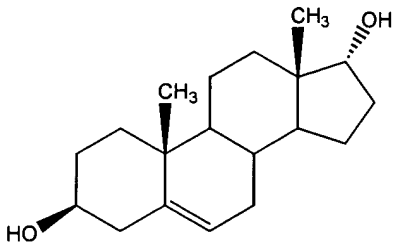
allegedly not enabled for any other tumor type. For reasons described below, Applicant respectfully traverses the rejection.

To establish and maintain a rejection under 35 U.S.C. §112, first paragraph, the Office must provide logical reasoning to support its position. The Office must "explain why it doubts the truth or accuracy of any statement in a supporting disclosure and to back up assertions of its own with acceptable evidence or reasoning which is inconsistent with the contested statement." *In re Marzocchi and Horton*, 169 U.S.P.Q. 367, 369-370 (C.C.P.A. 1971). The Office must advance "substantive reasons why the instant specification is non-enabling." "Mere broad generalizations and allegations are insufficient for holding of non-enablement." *Ex parte Goeddel* 5 U.S.P.Q. 2d 1449 (B.P.A.I. 1987). The first paragraph of 35 U.S.C. § 112 requires nothing more than objective enablement. *In Re Vaeck* 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991), *Atlas Powder Co. v. E.I. Du Pont De Nemours & Co.* 224 U.S.P.Q. 409 (Fed. Cir. 1984). It is irrelevant whether objective enablement is based on working examples or on broad terminology. *In Re Vaeck*, supra, *Atlas Powder Co.*, supra. To meet the requirement under the first paragraph of § 112, the specification, when filed, must enable one skilled in the particular art to use the invention without undue experimentation. *In re Wands*, 858 F.2d 731, 737, 8 U.S.P.Q.2d 1400, 1404 (Fed. Cir. 1988). In addition, even if some of the claimed embodiments were inoperative, the claims are not necessarily invalid. "It is not a function of the claims to specifically exclude . . . possible inoperative substances . . . ." *Atlas Powder Co.*, supra, *In re Dinh-Nguyen*, 492 F.2d 856, 858-59 (C.C.P.A. 1974). As explained below, Applicant respectfully submits that the specification enables the claims.

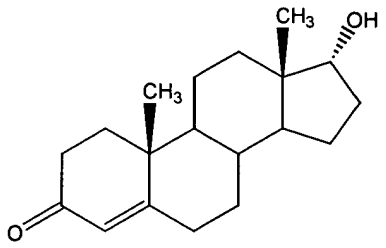
To support the rejection, the Office analyzed the claims using the factors that *In re Wands*, supra, discusses. The Office alleged that the claimed invention, which recites treating tumors, is complex and broad, while the working examples in the specification were limited to specific tumor types. The Office cited Carter et al. (Chemotherapy of Cancer, 2nd Ed. pages 362-365 1981, of record) as

observing assertion that none of the forty known anticancer agents were effective in treating all cancers. The Office cited Segaloff (Cancer 10:808-812, 1957, of record), who observed that the 17α-hydroxy epimer of testosterone had reduced androgenicity and clinical effectiveness compared to testosterone ion treating human breast cancer. The Office asserted that one skilled in the art would not employ the 17α-hydroxyl group for treating breast cancer, in view of Segaloff. Applicant respectfully traverses the Office's characterization of the invention and claims and the reasoning the Office relied on to cast the rejection.

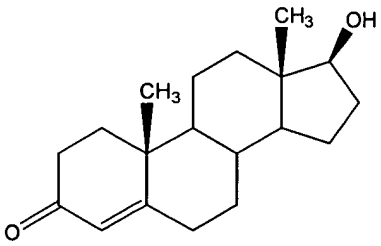
The structures of the Segaloff compounds and the presently claimed compounds are shown below.




3β,17α-dihydroxyandrost-5-ene
(17α-AED)




3-oxo-17α-hydroxyandrost-4-ene
(epitestosterone)




3-oxo-17β-hydroxyandrost-4-ene (testosterone)

The compound structures show that they are simply different molecules. The Segaloff reference links androgenicity with clinical effectiveness. However, the present invention does not rely on androgenicity of the compounds in the claimed treatments and Segaloff is thus not relevant to the present invention. As stated at paragraph 13 of the present application, 17α-AED and related compounds have effects on cell death. The Office gave no reason to explain why the anti-tumor activity of the compounds in the claimed methods would require androgenicity.

Applicant directs the Office's attention to paragraph 24 of the present application, which refers to the cell line ZR-75-1. The ZR-75-1 cell line is a human breast cancer cell line and the disclosure at paragraphs 30-36 show that 17α-AED is effective against these human breast tumor cells. This data contradicts the conclusion the Office drew based on the Segaloff reference, i.e., the loss of androgenicity in testosterone would mean that the 17α-AED would not have efficacy in treating breast cancer. Applicant has provided objective evidence that 17α-AED and the related compounds have activity against human breast cancer, which meets the legal requirement for enablement. *In Re Vaeck*, supra, *Atlas Powder Co.*, supra. In view of the application's disclosure, the Office must explain why the claimed compounds could not be used to treat human breast cancer or any other cancer. *Ex parte Goeddel*, supra. To maintain this rejection, the Office should provide a rationale to support its assertion that the anti-tumor activity of the claimed compounds would require androgenicity, in view of Applicant's contrary evidence.

Also in support of the rejection, the Office alleged that the claims were complex due to the breadth of tumor types and the observations in the Carter reference concerning treating a range of cancer types using a single agent. Applicant traverses this characterization and requests further clarification of these concerns. Since the Carter reference published in 1981, the art of cancer treatments progressed enormously. Applicant notes that methods for treating cancers generally have been described using generic compound structures that cover a vast range of chemical structures and billions of chemical compounds. For example, claim 27 of U.S. patent 6,642,227, issued November 4, 2003, (hereafter the '227 patent) newly cited, claims a method to treat many disorders including all tumor types. Despite the enormous range of chemical structures that the claims in '227 recite, claims 1, 19 and 27 together recite treating <u>any</u> tumor or cancer as a 'proliferative disease' in addition to treating all allergy conditions, all inflammatory diseases, all infectious diseases, all neurodegenerative diseases and many other clinical conditions. Obviously, the art of cancer treatments in

1999, when the parent application was filed differs vastly from the art in 1981, 18 years earlier. Given the biological activity in the present application, there is no reason to believe that the specification fails to enable the present claims. As noted above, the law does not require that all embodiments within a claim be operative. *Atlas Powder Co.*, supra, *In re Dinh-Nguyen*, supra. Nor is there a requirement for an applicant to provide data for all possible embodiments, as the Office appears to imply. *In Re Vaeck*, supra. The enablement-related disclosure in the present application is clearly sufficient for the present claim scope and, at the time the application was filed, one of ordinary skill in the art could have practiced the invention without undue experimentation. Applicant respectfully requests reconsideration and withdrawal of the rejection.

Applicants' representative can be reached at the number given below if the Office has any questions or would like to address any other matters that may arise.

Respectfully submitted,

Dated: 12-18-03

Daryl D. Muenchau, Reg. No. 36,616
Hollis-Eden Pharmaceuticals, Inc.
4435 Eastgate Mall, Suite 400
San Diego, CA 92121
Phone: 858-320-2569
Fax: 858-558-6470